Analyzing Blood Donation probabilities and number of possible donors

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MES20MCA-2049

PRODUCT OWNER-FEBIN AZIZ

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INTRODUCTION

Blood transfusion has critical importance for human survival in risky situations that may occur. The number of possible donors and blood donation probabilities can be determined by using machine learning approaches. When the need for blood occurs in the future, medical professionals can predict potential donors for blood supply. Machine learning algorithms can support the blood transfusion process using datasets. When it comes to human health, data analysis is carried out to help prevent situations that will have critical consequences. By looking at the results of the data analysis, donors who may donate blood can be detected. In order to make this process carried out as expected, accurate and complete access to existing records must be provided. Blood transfusion has been provided for many years.

MODULES

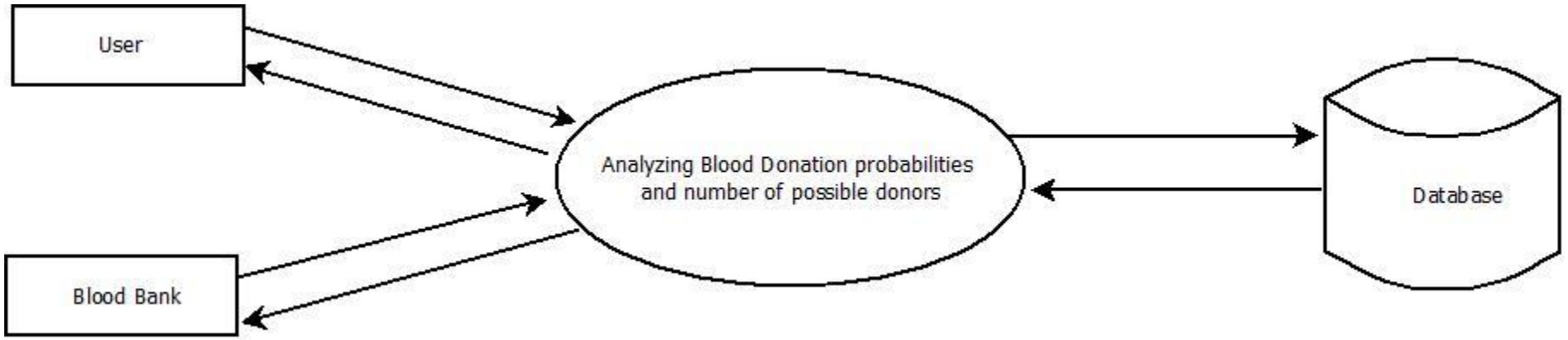
- USERS
    1. Registration
    2. Login
    3. View blood requirements
    4. Accept blood request
    5. Donate
    6. Search blood
- BLOOD BANK
    1. Login
    2. Add blood requirements
    3. View request status
    4. Update donation information
    5. Probability check

DEVELOPING ENVIRONMENT

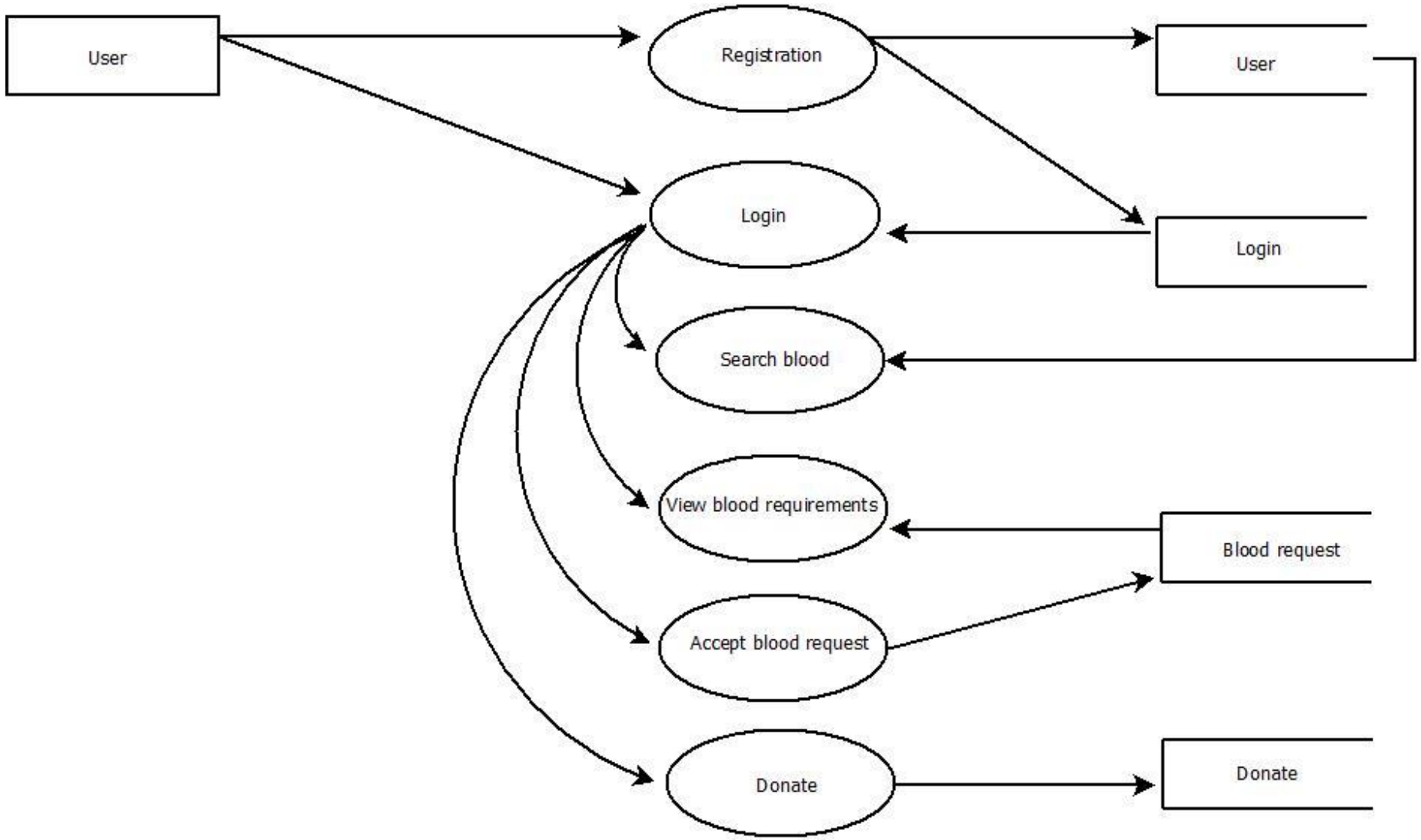
- **Hardware Requirements**
  - Processor : Intel Pentium Core i3 and above, 64 bits
  - RAM : Min3GB RAM
  - HARD DISK : 10 GB
- **Software Requirements**
  - OPERATING SYSTEM : WINDOWS 10
  - FRONT END : HTML, CSS, JAVASCRIPT
  - BACK END : Mysql
  - IDE USED : Jetbrains Pycharm, Android studio
  - TECHNOLOGY USED : PYTHON JAVA
  - FRAME WORK USED : Flask

DATA FLOW DIAGRAM

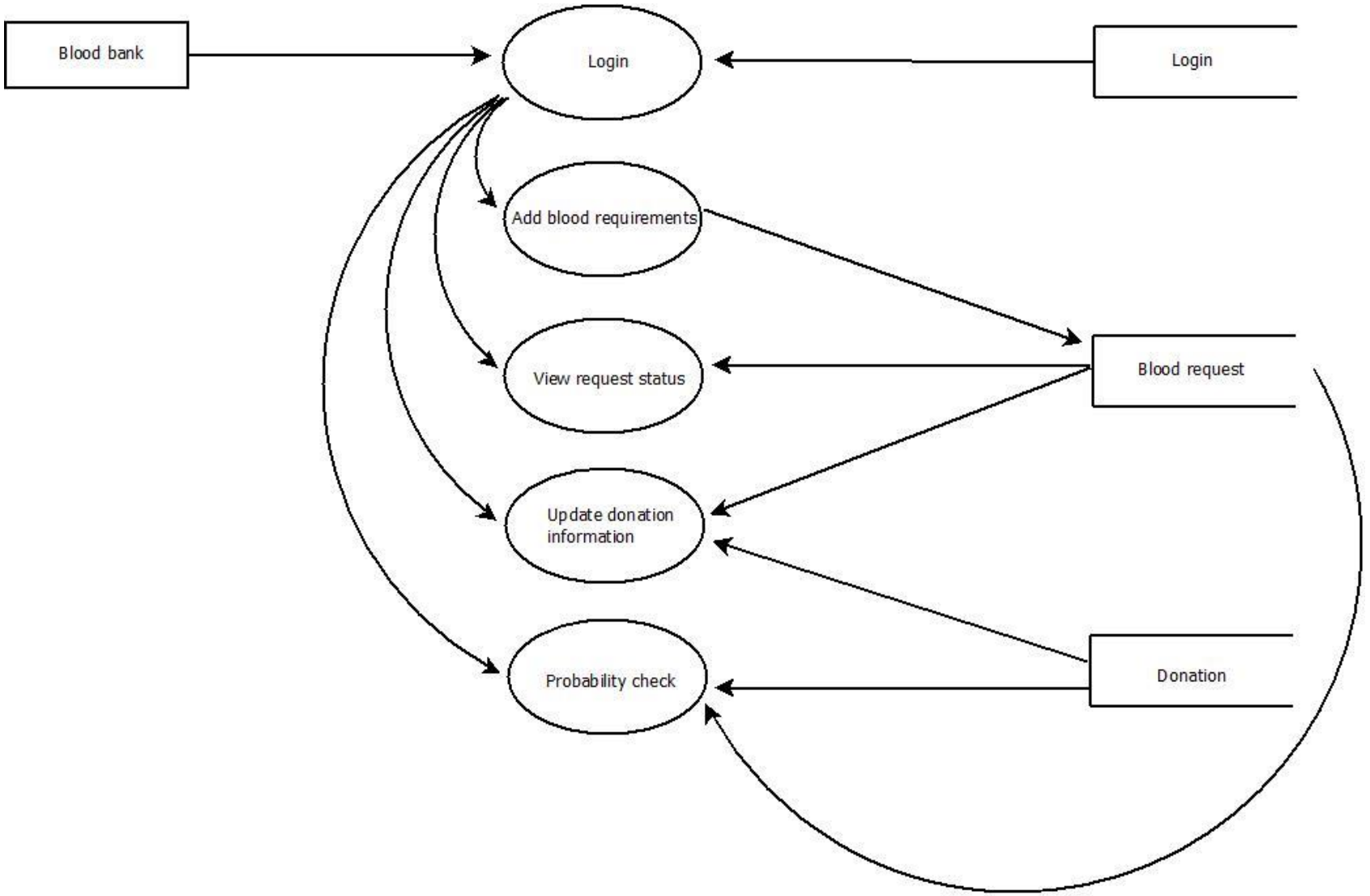
Level 0



Level 1


User
Registration
User
Login
Login
Search blood
View blood requirements
Blood request
Accept blood request
Donate
Donate

Level 2


Blood bank
Login
Login
Add blood requirements
View request status
Blood request
Update donation information
Probability check
Donation

USER STORY

UserStoryID	As a <type of user>	I want to	So that I can
1	Blood Bank	login	login successful with correct username and password
2	Blood Bank	Add blood requirement	Add request for required blood group
3	Blood Bank	View request status	View blood requirement request status
4	Blood Bank	Update donation	information Update request status to donation
5	Blood Bank	Probability check	Checking probability of blood availability
6	User	Registration	Register user by details
7	User	Login	Login by using username and password
8	User	Search blood	Search blood by group
9	User	View blood requirements	View same blood group requirements
10	User	Accept request	Accept blood request
11	User	Donate	Donate blood

PRODUCT BACKLOG

User Story ID	Priority <High/Medium/Low>	Size (Hours)	Sprint <#>	Status <Planned/In progress/Completed>	Release Date	Release Goal
1	Medium	2	1	Completed	08/01/2022	Table design
2	High	3		Completed	08/01/2022	Form design
3	High	5		Completed	08/01/2022	Basic coding
4	High	5	2	Planned		Manage blood donation details
5	Medium	5		Planned		Manage dataset.
6	High	5	3	Planned		Analyzing blood donation probability
7	medium	5		Planned		Machine learning
8	Medium	5	4	Planned		Testing data
9	High	5		Planned		Output generation

PROJECT PLAN

User Story ID	Task Name	Start Date	End Date	Days	Status
1	Sprint 1	26/12/2021	28/12/2021	2	Completed
2		29/12/2021	31/12/2021	3	Completed
3		03/01/2021	08/01/2022	5	Completed
4	Sprint 2	09/01/2022	16/01/2022	8	Planned
5		18/01/2022	22/01/2022	5	Planned
6	Sprint 3	23/01/2022	27/01/2022	5	Planned
7		30/01/2022	05/02/2022	7	Planned
8	Sprint 4	06/02/2022	10/01/2022	5	Planned
9		16/02/2022	19/02/2022	4	Planned

SPRINT PLAN

Backlog Item	Status & completion date	Original estimate in hours	Day1	Day2	Day3	Day4	Day5	Day6	Day7	Day8	Day9	Day10	Day11	Day12	Day13	Day14
User story #1,#2,#3		hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs
Table design	28/12/2021	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Form design	31/12/2021	3	0	0	0	1	1	1	0	0	0	0	0	0	0	0
Coding	08/01/2021	5	0	0	0	0	0	0	0	0	0	1	1	1	1	1
User story #4,#5,#6, #7,#8																
Manage blood donation details	16/01/2022	5	1	1	0	1	0	1	0	1	0	0	0	0	0	0
Manage dataset.	22/01/2022	5	0	0	0	0	0	0	0	0	0	1	1	1	1	1
Analyzing blood donation probability	27/01/2022	5	1	1	1	1	1	0	0	0	0	0	0	0	0	0
Machine learning	05/02/2022	5	0	0	0	0	0	0	0	1	0	1	1	1	0	1
Testing data	10/01/2022	5	1	1	1	1	1	0	0	0	0	0	0	0	0	0
User story #9																
Output generation	19/02/2022	5	0	0	0	0	0	0	0	0	0	2	1	1	1	1
Total		40	4	4	2	4	3	2	0	2	0	5	4	4	3	4

SPRINT 1 ACTUAL

Backlog Item	Status & completion date	Original estimate in hours	Day1	Day2	Day3	Day4	Day5	Day6	Day7	Day8	Day9	Day10	Day11	Day12	Day13	Day14
User story #1,#2,#3		hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs
Table design	28/12/2021	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Form design	31/12/2021	2	0	0	0	1	1	1	0	0	0	0	0	0	0	0
Coding	08/01/2021	5	0	0	0	0	0	0	0	0	0	1	1	1	1	1
User story #4,#5,#6,#7,#8																
Manage blood donation details																
Manage dataset.																
Analyzing blood donation probability																
Machine learning																
Testing data																
User story #9																
Output generation																
Total		10	1	1	0	1	1	1	0	0	0	1	1	1	1	1

THANK YOU